HOW AND WHY WE LEARN.

III

THIS discussion of the different views of the process of learning is not a discussion of different ways of learning. There is but one, which I have called "nutrition," believing that the figure involved in the use of this term most nearly describes the act; that when anything is learned, it has become a part of the mind in a sense quite similar to that in which food digested and assimilated has become a part of the body. While the figure is not exact, it is nearly so, for not only does the act of learning produce a modified and enlarged mind, but the thing known is modified. In so far as we can see, no fact, even the simplest, is exactly the same as known by two minds.

Different terms are used in different educational philosophies to represent practically this idea. Such a term is "apperception," brought into use from the philosophy of Herbart, which indicates the vital relation between the knowing mind and the thing known, or rather between the things known before and the new truth as it is learned. This does not go as far as the theory of nutriment, for it seems to recognize too marked a distinction between the knowing mind and the things known, as if that which had been previously learned were lying in the mind and to it new facts attached themselves when learned. It does not sufficiently recognize the modification of the mind itself through growth.

The term "assimilation," commonly applied in the older educational philosophies in part to the act of learning, is better and goes farther than the term "apperception" of the Herbartian philosophy. Indeed, the term itself implies an act preceding, but almost identical with, nutrition. Along with it, however, in these older philosophies, are used other terms implying that facts may be learned without assimilation, though not so well learned; making assimilation merely a higher degree of learning.

My contention is that there is no learning at all except that which may be figuratively described as "assimilation" and "nutrition;" that, unless a truth becomes thus a constituent of the mind, it is not learned at all. So my argument is not for a particular kind of learning, known as nutrition, contrasted with other kinds of learning based upon the physical as distinguished from the biological analogy. It is rather that, there being but one kind of learning, all work in school should be directed to securing that; that all effort directed to anything else is wasted or worse; and, as I stated in a previous article, that many of our schools have endeavored to treat knowledge as the possession of some specific, tangible thing by the mind, useful, indeed, but not essential to the mind.

So we have had the "common intelligence school" and the "formal discipline school," both resulting in enormous waste from misdirected energy, though both have resulted in much good in spite of the theories of the schoolmasters, because the mind has assimilated some of the facts presented and has received nutriment from them.

Education through the receiving of nutrition is a law of life, and all life is a great educational process, continuous and unending. Thus education results from reaction against environment. By environment I mean, not merely that which surrounds us, but that which we feel as an influence and against which there is a psychic reaction. Our environment, or the portion of the surrounding world which we thus feel, nourishes, enriches, and strengthens the mind, and only that against which there is a psychic reaction affects us at all.

School life should be an epitome of life, more fruitful and tending more rapidly to growth than the ordinary life, because it is directed, and the things which affect the mind are carefully selected and differentiated from other things so as to reduce the waste to the minimum. Too often the school life has not been so fruitful as the larger life. It has furnished less of proper environment, the direction has been wrong, and it has been filled with forces and material which the minds of the children could not receive or be affected by directly, so that a

vast amount of the energy of the teacher has been thrown away because what he presented has not been nourishing to the minds of children. In the true school, that is presented to the children for learning which may be learned; that is, which may enter into the mind as a constituent and may nourish it.

In the old courses, represented in the two classes of schools already spoken of, the chief consideration was the subject-matter to be taught. Certain facts which were supposed to be useful were selected and logically developed with slight regard to the conditions and needs of the young minds set to learn them.

The first consideration of the good school, or what might be called the "nutrition" school, is not subject-matter, but the mind itself, and not mind in the abstract or in general, but minds, as found in the individual children. For, as no two minds are alike, so can no two minds be profitably given exactly the same treatment for educative purposes. The subject-matter to be taught is important, but of secondary consideration; it must be selected because of its fitness for the child rather than because it may be logically developed or is useful in life.

The mind and the subject-matter must be studied together to find their relations, and for each child the result will be somewhat different from that in any other child; and, as the minds to be nourished by learning are young and immature, and as young, immature minds grow very unevenly, the differences will be greater than among mature minds, and the very greatest care is necessary in the selection of material in order that there may be as little waste as possible.

This theory reduces the possible generalizations upon education and compels us to take account of the individual children. Indeed, it substitutes children for "the child." This is a hard doctrine. It disturbs the equanimity of the calm philosopher who sits in his study, reads the philosophy of history, and *ex cathedra* puts forth a general curriculum for schools based upon his philosophical knowledge of the world.

It also disturbs the child-study generalizer who, adopting the scientific method, gathers a mass of facts about children and then generalizes for the mass on the theory of averages.

It compels these at frequent intervals to "go way back and sit down," while the individual teacher studies each child and endeavors to give him the food he needs. This doctrine compels us to admit that the need of each child must, to a very considerable degree, determine both the subject-matter and the method of his education. It asserts that interest, appetite, is one of the indications of need. Of course, it does not deny that there may be bad appetites which may not be indulged; that the child may not have an appetite for what he has never tasted; and hence new appetites may be induced by the presentation of new foods. But this is a mere caution. It denies that all food is fit for children. It recognizes that the child is not a little adult, but is a very unevenly developed organism, whose proper nutriment can only partially be determined by any generalizations or systems of averages regarding that which is outside of him.

The mind truly nourished by knowledge is not inflated like a balloon, it is not expanded into a sphere, it is not even symmetrically developed; it grows into its environment near and remote, it develops power for use in the world it must live in.

As learning represents the reaction of the mind against its environment, it follows that in order to make complete the learning there must be furnished abundance of opportunity for that form of mental activity which we call expression; for nutrition is the result, not merely of successful feeding, but of exercise as well. For genuine nutrition, free movement, employing the strength which nutriment furnishes in as many ways as possible, is necessary.

The child cannot learn truly by merely sitting and conning books. A necessary accompaniment to this reception of fact must be the putting into effect the thing learned; that is, the children must express what they are learning in order that the act of learning may be complete, and they must express it in as many ways as possible, in ways most natural; this is the method of the larger world. The man who does things and makes things understands the things better than the one who simply observes. So that school must represent the larger life, not

merely in furnishing a rich environment, nutritious and strengthening, but also in furnishing abundance of inducements for activity.

There have been some recent utterances indicating a belief that the best way for children to learn is in isolation; that, if children were shut up away from the world in a thesaurus of facts about life, they would absorb them and at the end would come forth enriched and ready to do something. This would seem hardly worth notice except for the exalted source whence it comes.

Shutting in a child from his environing world in a world of books, and keeping him isolated, that at some time he may be given back to the world enriched with the knowledge of the past and the remote, has a large and philosophical sound, but is really sheer nonsense. It suggests the dutiful son who runs away in boyhood and after forty years comes back with a fortune, pays off the mortgage on the old farm, and gives his aged parents a fine funeral.

It is the fashion to trace our philosophical notions back to the Greek philosophers. I can think of none upon whom the responsibility for this notion can be placed except the *scholastikos* who advised his son to learn to swim before going into the water. Knowledge is still too often regarded as the acquisition to be put into safe-deposit vaults against a rainy day.

No one holds in greater reverence than I the treasures preserved in literature and the other monuments of men's labors. But the value of all this is manifest only when it makes man more efficient in the present. It is well, it is noble, for men in cloistered retreats to seek out and preserve truths unknown before, because, even though they may little enrich the discoverers, they enrich the world and will enable others to serve their day. Such search is the exalted mode of serving, chosen by the few. It constitutes their life, but this is not education for the many.

In school the study interprets life and life interprets it. The riches of all ages and all worlds, in so far as they are disclosed to the eye-minded, merely nourish through knowledge

the student's mind, and hence they give a wider and fuller and deeper insight into the world in which he must live and work, and make higher service possible.

Cloistered isolation suggests two worlds, a double life: that of the immediate present, the pressing environment; and that of the remote in time and space, the world-wide, the world-old. Such a double life, if possible, would defeat its own ends. It would fill the world with learned incompetents.

The popular demand for practical education rests on a firm foundation of philosophy and psychology. It is, like an instinct, not to be ignored. The popular error is not in the demand, but in a misunderstanding of what is really practical, narrowing it to a few manifest values, as the commercial.

But the people are often wiser than the philosophers. Knowledge acquired in education should be closely and constantly related to life. It should expand life. The double life is absurd. At no time should the content of knowledge given to the young for educative purposes be narrow. It should be as broad as interest and should continually broaden interest. Nourishment includes vastly more than the mere acquisition of food, it involves such exercise as shall change the food into brawn. This exercise may not be merely the effort necessary to acquisition. The body will not thrive through exercising the digestive organs alone; it will be fat and flabby like the swine which, while fattening, is not allowed to roam at will for exercise. The exercise must be of the organs in which we desire to produce strength. This is the argument against extreme isolation in school life, and for allying the school as closely with the abounding life of the world as possible.

The athlete is isolated only from what is harmful, not from activities. He is not shut up in the dining-room. School is life to prepare for life. Knowledge is always the basis—wide, varied, multitudinous knowledge; but as acquired it must be employed.

The test of a theory regarding education and of the sincerity with which it is held is found in the kind of school produced. There are instances enough of the truly educative school to

serve as criteria. In this school the children are the first consideration, not merely theoretically and sentimentally, but truly and thoughtfully. Their needs are the basis of all the instruction, and these are determined by the careful study, first of the children themselves, second of the world around them in which they must live, and they are studied together, with the aim that each child may grow into social efficiency, which is the end of education.

Thoroughness is not in this school a fetich; only so much of a branch of knowledge is given at a time as can be digested and assimilated. To expect a little child to know thoroughly any subject is as absurd as to expect him to consume all the bread in the house before eating any meat. Yet his knowledge is not a smattering. What he knows is thorough in one sense because it is vital. He knows thoroughly what he knows, for it is a part of him, after the biological analogy.

The elementary school in which the teachers sincerely and intelligently believe that the educative function of knowledge is to nourish the mind is the school in which children live a life of joyful activity. They go to their work with an eagerness comparable only to that with which they begin any of the natural activities of body or mind.

There is always a motive inherent in the work; it supplies a felt need. The activities employed in the process of education are no more unnatural than those essential to physical growth. The mind is surely as natural as the body, and, when healthy and normal, requires no more a violation of nature for its growth than does the body. But the work of the school is the work of children, and not of adults cut to a smaller pattern. There are activities suitable to children, and they all have an obvious purpose acceptable to the childish mind. Tasks dictated for an end obvious to the teacher alone, although that end may be the future welfare of the children, do not appeal to them. They certainly do not cultivate that most necessary of powers, the power to labor, to drudge even, for a high, though remote, end; for this power comes only from an appreciation of the worth of this remote end, not from blind obedience to another's will.

It is this appreciation of the worth of the end that supplies the inspiration necessary to carry us through long years of dreary drudgery toward a sought goal, and this end is evident in the true school, resting, according to the biological analogy, upon a belief in the living, growing mind requiring nourishment. It is lacking in all schools founded upon any other basis.

In this school the children acquire intelligence, for the air is charged with it. They not only know the common symbols of the eye-minded; they can apply them in a thousand ways not dreamed of in the "practical" school. They can read and write and cipher, for they continually use these arts to express the thoughts suggested by the countless things learned in their school life, and their intelligence is real, not verbal.

The children in this school receive discipline, for they work as they never do in the other schools. They work with a will, because they work with a motive. They get the kind of discipline that the man gets who toils night and day to perfect an invention for the advancement of civilization. The motive is inherent in the work itself, and consistent with it. It is not foreign and artificial, like a mark or a prize. This is the only true discipline. This develops self-direction, self-sacrifice, the subordination of ease, and all lower pleasure to the higher joy of work for achievement. It cultivates moral power, inner law, in place of the hypocritical yielding to external force too often bred in the so-called disciplinary school.

This school also furnishes the higher intelligence, the broad culture, of the third class, but vastly richer and more real. The content of the curriculum in the nutritive school is as broad as civilization, as extensive as the world, and it is approached in such a way as to make the knowledge real.

In no school is knowledge so highly valued — genuine, first-hand knowledge. The whole broadening of the curriculum, which is the most noticeable phenomenon of our modern school, is due to the spread of the belief that the mind is to be nourished by knowledge. Literature, history, science, music, art, sociology, manual training, domestic science, have come into the

school through this door. True, many have accepted them, not comprehending their educational value; but that does not affect the major fact.

In this true school children are made acquainted with their material, social, and spiritual environment as in no other, not primarily because there is such an environment, a knowledge of which is useful, but because this knowledge furnishes the best nutriment to a mind growing into organized society — a society whose subordination of its material environment to spiritual ends constitutes its chief claim to superiority.

This school is the school of expression. The children engage in numberless activities employing all the powers of their minds. They express in varied ways what they receive. Thus they make it their own, incorporate it into the very constitution of their minds. The knowledge is not stored up against a day of comprehension; but by the exercise attendant upon the various means of expression it grows into the fiber of their beings, and makes them strong and adaptable, as the athlete by exercise makes his food a part of himself.

In this school is freedom and joy and hard work and discipline and abundance of knowledge, because the center is a child, a growing child, needing nourishment rich and varied; and every activity engaged in, and the knowledge imparted, are prepared to meet his needs. Thus and thus only is a child best fitted for social efficiency; and social efficiency is the end of education.

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